



Docket No.: T02-062A

AP
15/04

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
SERKH, Alexander

Application No.: 10/664,443

Confirmation No.: 4511

Filed: September 19, 2003

Art Unit: 3682

For: BELT TENSIONER

Examiner: Johnson, Vicky A.

APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

As required under § 41.37(a) and § 1.136(a), this brief is filed with a petition for a five-month extension under § 1.136(a), on the first Monday following seven months from the date of the Notice of Appeal filed in this case on August 16, 2007, and is in furtherance of said Notice of Appeal.

The fees required under §§ 41.20(b)(2) and 1.136(a) are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1206:

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I. REAL PARTY IN INTEREST

The real party in interest for this appeal is:

The Gates Corporation, a Delaware corporation having a principal place of business at 1551 Wewatta Street, Denver, Colorado, 80202.

II. RELATED APPEALS, INTERFERENCES, AND JUDICIAL PROCEEDINGS

There are no other appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are 22 claims pending in this application.

B. Current Status of Claims

1. Claims canceled: None
2. Claims withdrawn from consideration but not canceled: None
3. Claims pending: 1-22
4. Claims allowed: None
5. Claims rejected: 1-22
6. Claims objected to: 4 and 15

C. Claims on Appeal

The claims on appeal are claims 1-22

IV. STATUS OF AMENDMENTS

Appellant did not file an Amendment After Final Rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Initially, reference is made to Figures 1-3, 5 and 6, as well as page 3, line 8, through page 4, line 4, and page 7, line 20, through page 8, line 2, of the specification. Independent claim 1 is directed to an improved power transmission belt tensioner 26. Tensioner 26 has tensioner pulley 34 adapted to communicate with a surface of power transmission belt 24 and includes arm 42 upon which the pulley is rotatably mounted, via pulley bearing 40. Shaft 44 supports the arm and the shaft is rotatably supported by pivot bearing 48, 50. Tensioner 26 also provides attachment point 68 for strut 36. In tensioner 26 the tensioner pulley and the attachment point are laterally offset in relation to the pivot bearing and substantially balanced in terms of parasitic torque across the pivot bearing, as diagrammatically illustrated in Figures 4 and 7 and discussed beginning on line 20 of page 6 of the present application, through line 19 of page 7, and also in line 3 through 15 of page 8.

Again, with reference to Figures 1-3, 5 and 6, as well as page 3, line 8, through page 4, line 4, and page 7, line 20, through page 8, line 2, of the specification, independent claim 12 is directed to power transmission drive 10 having crankshaft pulley 22, accessory pulley 16, 18, 20, power transmission belt 24, and power transmission belt tensioner 26. Tensioner 26 has tensioner pulley 34 adapted to communicate with a surface of power transmission belt 24. Arm 42 supports the tensioner pulley and the tensioner pulley is rotatably mounted via a pulley bearing 40, thereupon. Shaft 44 supports the arm and the shaft is rotatably supported by a pivot bearing 48, 50. The tensioner 26 further includes attachment point 68 for strut 36. The pulley and the attachment point are laterally offset in relation to the pivot bearing and substantially balanced in terms of parasitic torque across the pivot bearing, as diagrammatically illustrated in Figures 4 and 7 and discussed beginning on line 20 of page 6 of the present application, through line 19 of page 7, and also in line 3 through 15 of page 8.

Returning to Figures 1-3, 5 and 6, as well as page 3, line 8, through page 4, line 4, and page 7, line 20, through page 8, line 2, of the specification, claim 22 is directed to a method of tensioning power transmission belt 24. This method includes the steps of providing power transmission belt 24, providing pivot bearing 48, 50, and providing a tensioner 26. This tensioner 26 has pulley 34 that is adapted to communicate with a surface of the power transmission belt. The provided tensioner also includes supporting structure 28, which in turn includes supporting shaft 44 rotatably supported by the pivot bearing for supporting arm

42. The supporting arm supports the tensioner pulley, the tensioner pulley being rotatably mounted upon the supporting arm via pulley bearing 40. As may be best seen in Figures 3, 4, 6 and 7, the pulley is laterally offset in relation to the pivot bearing and attachment point 68 for strut 36, the attachment point being laterally offset in relation to the pivot bearing. The method further comprises providing the strut, communicating a biasing force from the strut to the attachment point with the supporting structure communicating the biasing force to the pulley through rotation about the pivot bearing. In accordance with the method of claim 22, the biasing force at the pivot bearing is substantially balanced in terms of parasitic torque, as diagrammatically illustrated in Figures 4 and 7 and discussed beginning on line 20 of page 6 of the present application, through line 19 of page 7, and also in line 3 through 15 of page 8.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-3 and 5-11 stand rejected under 35 U.S.C. 102(b) as anticipated by Schmid, U.S. Pat. No. 6,039,664 (hereinafter *Schmid*); and

Claims 12-14 and 16-22 stand rejected under 35 U.S.C. 102(b) as anticipated by Mutoh, German Pat. No. 3809169 (hereinafter *Mutoh*).

VII. ARGUMENT

As a preliminary matter, Appellant wishes to note that dependent claims 4 and 15 are indicated as allowable in the May 16, 2007 Office Action. However, herein Appellant respectfully traverses the outstanding rejections of all of claims 1-22, and requests the Board reconsideration and withdrawal of the outstanding rejections in light of the remarks contained herein and the evidence presented in the declarations under 37 CFR § 1.132 filed earlier in this case. Claims 1-22 remain currently pending in this application.

A. REJECTIONS UNDER 35 U.S.C. §102(b)

It is well settled that to anticipate a claim, a reference must teach every element of the claim, see M.P.E.P. §2131. Moreover, in order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, “[t]he elements must be arranged as required by the claim,” see M.P.E.P. § 2131, citing *In re Bond*, 15 US.P.Q.2d 1566 (Fed. Cir. 1990). Furthermore, in order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with

respect to a claim, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim,” see M.P.E.P. § 2131, citing *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989). Appellant respectfully asserts that the rejections of record do not satisfy one or more of these requirements.

1. Independent Claim 1

As noted claim 1 stands rejected under 35 U.S.C. 102(b) as anticipated by *Schmid*. In the rejection of independent claim 1 the Office Action parenthetically states:

It is inherent that the forces of the strut would balance out the forces of the pulley, because as the belt applies more force against the pulley the strut would apply an equal opposite force in order to keep tension on the belt. The forces of the pulley and the strut have to pass through the pivot bearing and balance in order to keep the appropriate tension on the belt (emphasis added).

As pointed out in M.P.E.P. § 2112(IV), to establish inherency “the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). M.P.E.P. § 2112.01(I) provides that “the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product.” *In re Best*, 562 F.2d at 1255, 195 USPQ at 433.

Independent claim 1 recites “said pulley and said attachment point laterally offset in relation to said pivot bearing and substantially balanced in terms of parasitic torque across said pivot bearing” (emphasis added). Assuming *ad arguendo* that, as the Examiner alleges, That the forces of the pulley and the strut of *Schmid* “have to pass through the pivot bearing and balance in order to keep the appropriate tension on the belt,” Appellant respectfully contends that *Schmid* does not teach a pulley and attachment point being substantially balanced in terms of parasitic torque across a pivot bearing as recited by claim 1. Although, the forces to keep tension on the belt in *Schmid* may pass through bolt 10 and accompanying axel (bearing) 6 to engine block 4, nothing in *Schmid* would suggest that the pulley and attachment point are substantially balanced in terms of parasitic torque across axel 6.

Further, Appellant advanced the Declarations under 37 C.F.R. §1.132 of the present Inventor and the sole Inventor of the *Schmid* reference (now an employee of the above indicated real party in interest) as rebuttal evidence under M.P.E.P. § 2112.01(I). These Declarations (as recorded in the USPTO) are attached hereto as a part of the Evidence Appendix called for by 37 CFR 41.37(c)(1)(ix). Therein, the present Inventor and the Inventor of the *Schmid* reference point out that one of ordinary skill in the art would not find that the tensioner arrangement of *Schmid* would necessarily possess the characteristic of being substantially balanced in terms of parasitic torque across its pivot bearing(s).

More specifically, *Schmid* fails to teach or suggest balancing a pulley, attachment point and pivot bearing in terms of parasitic torque across the pivot bearing by arranging the a pulley, attachment point and pivot bearing such that a balance line that might be inferred as passing through the through an axis of the strut attachment point and a center of the tensioner pulley would intersect the pivot shaft, much less intersect the pivot shaft within a lateral limit of the pivot bearing(s). Such an implementation of the invention of claim 1 is taught by the specification of the present application as a way to balance a pulley, strut attachment point and pivot bearing in terms of parasitic torque. Review of Figure 1 of *Schmid* makes clear that a balance line cannot pass through the axis of the strut attachment point, a center of the tensioner pulley and the pivot shaft of *Schmid*, as the a plane containing the pulley axis and the pivot axis is perpendicular to a plane containing the pivot axis and the attachment point. As pointed out in the background section of the specification of present patent application, the attachment point for the strut of *Schmid* remains substantially in the plane at the center of rotation of the pivot bearing. It is readily apparent that, when the tensioner of *Schmid* is placed into operation, the forces acting upon the tensioner by the belt and the strut give rise to an unbalanced load across the pivot bearing causing parasitic torque, which tends to force the pivot shaft to axially misalign with the bearing. This would be true whether the strut is providing the biasing force for the tensioner or only modifying the biasing force through damping.

Thus, *Schmid* fails to teach or suggest, nor does *Schmid* necessarily possess the characteristic of balancing a pulley, strut attachment point and pivot bearing in terms of parasitic torque across the pivot bearing. For at least the foregoing reasons, Appellant respectfully asserts that *Schmid* fails to teach at least “said pulley and said attachment point

... substantially balanced in terms of parasitic torque across said pivot bearing,” as recited by independent claim 1. Therefore, independent claim 1 is patentable over the 35 U.S.C. § 102 rejection of record. Furthermore, there are great differences between claim 1 and the prior art of record, and a person of ordinary skill in the art considering the prior art would not find these differences obvious. For example, *Schmid* is silent concerning parasitic torque, much less substantially balancing a pulley and an attachment point in terms of parasitic torque across a pivot bearing.

2. Claims 2 and 3

As noted, claims 2 and 3 also stands rejected under 35 U.S.C. 102(b) as anticipated by *Schmid*. Claim 2 recites “said strut attachment point is laterally opposite of said pivot bearing in relation to the plane of rotation of said pulley.” Clearly, in *Schmid* the unnumbered strut (1) attachment point is on the same side of pulley 3 as “radial” bearing 13 (See Fig. 3 of *Schmid*). Therefore, claim 2 is patentable over the 35 U.S.C. § 102 rejection of record.

Furthermore, claim 2 depends directly from independent claim 1, and thereby inherits all elements of claim 1. Therefore, for at least the reasons set forth in addressing the anticipation rejection of claim 1, claim 2 further sets forth features and limitations not recited by *Schmid*.

For at least the foregoing reasons, Appellant respectfully asserts that claim 2 is also patentable over the 35 U.S.C. § 102 rejections of record.

Claim 3 depends directly from claim 2 and thereby indirectly from independent claim 1, and thereby inherits all elements of claims 1 and 2. Therefore, for at least the reasons set forth in addressing the anticipation rejections of claims 1 and 2, claim 3 sets forth features and limitations not recited by *Schmid*. For at least this reasons, Appellant respectfully asserts that claim 3 is also patentable over the 35 U.S.C. § 102 rejections of record.

3. Claims 5, 7, 9 and 10

As noted, claims 5, 7, 9 and 10 also stand rejected under 35 U.S.C. 102(b) as anticipated by *Schmid*. Claim 5 recites “said strut attachment point is laterally opposite of said pulley in relation to the plane of rotation of said pivot bearing.”

As a preliminary matter, Appellant respectfully notes that the single embodiment shown and described in *Schmid* cannot show both that “said strut attachment point is laterally opposite of said pivot bearing in relation to the plane of rotation of said pulley” as recited by claim 2 (See Fig. 3 of the present application.) and that “said strut attachment point is laterally opposite of said pulley in relation to the plane of rotation of said pivot bearing,” as recited by claim 5 (See Fig. 6 of the present application.).

Still, in *Schmid* one of the “radial” bearings overlaps with pulley 3, and hence pulley 3 cannot be fairly characterized as being laterally opposite the unnumbered strut attachment point (See Fig. 2 of *Schmid*). Therefore, claim 5 is patentable over the 35 U.S.C. § 102 rejection of record.

Furthermore, claim 5 depends directly from independent claim 1, and thereby inherits all elements of claim 1. Therefore, for at least the reasons set forth in addressing the anticipation rejection of claim 1, claim 5 further sets forth features and limitations not recited by *Schmid*.

For at least the foregoing reasons, Appellant respectfully asserts that claim 5 is also patentable over the 35 U.S.C. § 102 rejections of record.

Claims 7, 9 and 10 each ultimately depend from claim 5 and thereby indirectly from independent claim 1. Thus, each of claims 7, 9 and 10 inherits all elements of claims 1 and 5. Therefore, for at least the reasons set forth in addressing the anticipation rejections of claims 1 and 5, claims 7, 9 and 10 set forth features and limitations not recited by *Schmid*. For at least this reasons, Appellant respectfully asserts that claims 7, 9 and 10 are also patentable over the 35 U.S.C. § 102 rejections of record.

4. Claim 6

As noted, claim 6 also stands rejected under 35 U.S.C. 102(b) as anticipated by *Schmid*. Claim 6 recites “said strut attachment point is beyond the lateral limits of said pivot bearing.”

Figure 2 of *Schmid* clearly shows the unnumbered strut attachment point more or less centered on radial bearings 13. Thus, the unnumbered strut attachment point of *Schmid* is

clearly within the lateral limits of radial bearings 13 and thus not beyond the lateral limits of the radial bearings (See Fig. 2 of *Schmid*). Therefore, claim 6 is patentable over the 35 U.S.C. § 102 rejection of record.

Furthermore, claim 6 depends directly from claim 5, and thereby indirectly from independent claim 1, and thereby inherits all elements of claims 1 and 5. Therefore, for at least the reasons set forth in addressing the anticipation rejections of claims 1 and 5, claim 6 further sets forth features and limitations not recited by *Schmid*.

For at least the foregoing reasons, Appellant respectfully asserts that claim 6 is also patentable over the 35 U.S.C. § 102 rejections of record.

5. Claim 8

As noted, claim 8 also stands rejected under 35 U.S.C. 102(b) as anticipated by *Schmid*. Claim 8 recites “the plane of rotation of said pulley is beyond the lateral limits of said pivot bearing.”

In *Schmid* one of the “radial” bearings overlaps with pulley 3. Hence, the plane of rotation of pulley 3 cannot be fairly characterized as beyond the lateral limits of radial bearings 13 (See Figs. 2 and 3 of *Schmid*). Therefore, claim 8 is patentable over the 35 U.S.C. § 102 rejection of record.

Furthermore, claim 8 depends directly from claim 5, and thereby inherits all elements of claims 1 and 5. Therefore, for at least the reasons set forth in addressing the anticipation rejection of claims 1 and 5, claim 8 sets forth features and limitations not recited by *Schmid*.

For at least the foregoing reasons, Appellant respectfully asserts that claim 8 is also patentable over the 35 U.S.C. § 102 rejections of record.

6. Claim 11

As noted, claim 11 also stands rejected under 35 U.S.C. 102(b) as anticipated by *Schmid*. The Office Action parenthetically asserts that “the base2 is capable of being adapted to hold an accessory.” Thus, the Office Action admits that *Schmid* fails to show, in at least as

great a detail as claimed, all of the elements of claim 11. Therefore Applicant respectfully asserts that the rejection of record of claim 11 under 35 U.S.C. § 102 is improper.

7. Independent Claim 12

As noted claim 12 stands rejected under 35 U.S.C. 102(b) as anticipated by *Mutoh*.

As a preliminary matter, Appellant respectfully asserts that *Mutoh* fails to teach or suggest “an attachment point for a strut” or “said strut attached to said attachment point” as also recited by claim 12. *Mutoh* merely shows rod 28 bearing on an end of arm 7. Further, applicant respectfully notes that, as pointed out in previous responses, *Mutoh* fails to explicitly disclose a pivot bearing as explicitly recited by claim 12. Thus, *Mutoh* fails to teach at least this element of claim 12 in as complete detail as recited in the claim.

In the rejection of independent claim 12 the Office Action again parenthetically states:

It is inherent that the forces of the strut would balance out the forces of the pulley, because as the belt applies more force against the pulley the strut would apply an equal opposite force in order to keep tension on the belt. The forces of the pulley and the strut have to pass through the pivot bearing and balance in order to keep the appropriate tension on the belt (emphasis added).

As pointed out above, to establish inherency “the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art” and that “the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product.”

Independent claim 12 recites “said pulley and said attachment point laterally offset in relation to said pivot bearing and substantially balanced in terms of parasitic torque across said pivot bearing” (emphasis added). Assuming *ad arguendo* that as the Examiner alleges the forces of the pulley and the strut of *Mutoh* “have to pass through the pivot bearing and balance in order to keep the appropriate tension on the belt,” Appellant respectfully contends that *Mutoh* does not teach a pulley and attachment point being substantially balanced in terms of parasitic torque across a pivot bearing as recited by claim 12. Although, one might view

the forces to keep tension on the belt in *Mutoh* as passing through bolt 10 and what may be an accompanying (unnumbered) bearing to the engine block, nothing in *Mutoh* would suggest that the pulley and attachment point are substantially balanced in terms of parasitic torque across the alleged unnumbered bearing.

Further, Appellant presents the appended Declaration under 37 C.F.R. §1.132 of the present Inventor as rebuttal evidence under M.P.E.P. § 2112.01(I). Therein, beginning on page 4, the Inventor points out:

one of ordinary skill in the art would not find that the tensioner arrangement of *Mutoh* would necessarily possess the characteristic of being substantially balanced in terms of parasitic torque across its pivot bearing(s), nor would these characteristics necessarily flow from the teachings of Muto. More specifically, *Mutoh* fails to teach or suggest balancing a pulley, attachment point and pivot bearing in terms of parasitic torque across the pivot bearing by arranging the a pulley, attachment point and pivot bearing such that a balance line that might be inferred as passing through an axis of the strut contact point of *Mutoh* and a center of the tensioner pulley would intersect the pivot shaft, much less intersect the pivot shaft within a lateral limit of the pivot bearing(s). See Figure 2 of *Mutoh*. Review of Figure 2 of *Mutoh* makes clear that a balance line cannot pass through the axis of the strut attachment point, a center of the tensioner pulley and the pivot shaft of *Mutoh*, as the a plane containing the pulley axis and the pivot axis is perpendicular to a plane containing the pivot axis and the attachment point. Thus, *Mutoh* fails to teach or suggest balancing a pulley, strut attachment point and pivot bearing in terms of parasitic torque across the pivot bearing. Nor are these characteristics necessarily possessed by *Mutoh* or do they necessarily flow from the teachings of Mutoh.

Thus, *Mutoh* fails to teach at least “said pulley and said attachment point laterally offset in relation to said pivot bearing and substantially balanced in terms of parasitic torque across said pivot bearing,” as recited by independent claim 12. For at least the above reasons, Appellant respectfully asserts that independent claim 12 is patentable over the 35 U.S.C. § 102 rejection of record. Furthermore, there are great differences between the claims and the prior art of record, and a person of ordinary skill in the art considering the prior art would not find these differences obvious. For example, *Mutoh* is silent concerning parasitic torque and

a pivot bearing, much less substantially balancing a pulley and attachment in terms of parasitic torque across such a pivot bearing.

8. Claim 13

As noted, claim 13 also stands rejected under 35 U.S.C. 102(b) as anticipated by *Mutoh*. Claim 13 recites “said strut attachment point being laterally opposite of said pivot bearing in relation to the plane of rotation of said pulley.” Clearly, in *Mutoh* the alleged strut attachment point 28 is on the same side of pulley 6 as shaft 10 (and any associated bearing). See Fig. 2 of *Mutoh*. Therefore, rod 28 is not opposite of any bearing on shaft 10, in relation to the plane of rotation of pulley 6.

Furthermore, claim 13 depends directly from independent claim 12, and thereby inherits all elements of claim 12. Therefore, for at least the reasons set forth in addressing the anticipation rejection of claim 12, claim 13 further sets forth features and limitations not recited by *Mutoh*.

For at least the foregoing reasons, Appellant respectfully asserts that claim 13 is also patentable over the 35 U.S.C. § 102 rejection of record.

9. Claim 14

As noted, claim 14 also stands rejected under 35 U.S.C. 102(b) as anticipated by *Mutoh*. Claim 14 recites “said strut attachment point forms part of a member extending from a support for said pulley bearing.” As noted above in addressing the rejection of claim 12 *Mutoh* fails to teach or suggest a strut attachment point, and the portion of *Mutoh* relied on by the Office Action, rod 28, as teaching the attachment point is clearly not a part of arm 7, which, at best, can be said to be roughly analogous to a “member extending from a support for said pulley bearing.” Therefore, *Mutoh* fails to disclose every element of claim 14, namely “said strut attachment point forms part of a member extending from a support for said pulley bearing.”

Furthermore, claim 14 depends directly from independent claim 13, and thereby inherits all elements of claims 12 and 13. Therefore, for at least the reasons set forth in

addressing the anticipation rejection of claims 12 and 13, claim 14 sets forth features and limitations not recited by *Mutoh*.

For at least the foregoing reasons, Appellant respectfully asserts that claim 14 is also patentable over the 35 U.S.C. § 102 rejection of record.

10. Claims 16, 19 and 20

As noted, claims 16, 19 and 20 also stand rejected under 35 U.S.C. 102(b) as anticipated by *Mutoh*. Claim 16 recites “said strut attachment point being laterally opposite of said pulley in relation to the plane of rotation of said pivot bearing.”

As a preliminary matter, Appellant respectfully notes that the single embodiment shown and described in *Mutoh* cannot show both that “said strut attachment point being laterally opposite of said pivot bearing in relation to the plane of rotation of said pulley” as recited by claim 13 (See Fig. 3 of the present application.) and that “said strut attachment point being laterally opposite of said pulley in relation to the plane of rotation of said pivot bearing,” as recited by claim 16 (See Fig. 6 of the present application.).

Still, in *Mutoh* since the alleged strut attachment point 28 is more or less aligned with shaft 10 (and any associated bearing), rod 28 is not opposite of pulley 6, in relation to any bearing on shaft 10.

Furthermore, claim 16 depends directly from independent claim 12, and thereby inherits all elements of claim 12. Therefore, for at least the reasons set forth in addressing the anticipation rejection of claim 12, claim 16 further sets forth features and limitations not recited by *Mutoh*.

For at least the foregoing reasons, Appellant respectfully asserts that claim 16 is also patentable over the 35 U.S.C. § 102 rejections of record.

Claims 19 and 20 each ultimately depend from claim 16 and thereby indirectly from independent claim 12. Thus, each of claims 19 and 20 inherits all elements of claims 12 and 16. Therefore, for at least the reasons set forth in addressing the anticipation rejections of claims 12 and 16, claims 19 and 20 set forth features and limitations not recited by *Mutoh*.

For at least this reasons, Appellant respectfully asserts that claims 19 and 20 are also patentable over the 35 U.S.C. § 102 rejections of record.

11. Claim 17

As noted, claim 17 also stands rejected under 35 U.S.C. 102(b) as anticipated by *Mutoh*. Claim 17 recites “said strut attachment point being beyond the lateral limits of said pivot bearing.”

Figure 2 of *Mutoh* clearly shows alleged strut attachment point 28 more or less aligned with shaft 10. Thus, the end of rod 28 of *Mutoh* is clearly within the lateral limits of shaft 10 and any associated bearings, and thus not beyond the lateral limits thereof (See Fig. 2 of *Mutoh*). Therefore, claim 17 is patentable over the 35 U.S.C. § 102 rejection of record.

Furthermore, claim 17 depends directly from claim 16, and thereby indirectly from independent claim 12, and thus inherits all elements of claims 12 and 16. Therefore, for at least the reasons set forth in addressing the anticipation rejections of claims 12 and 16, claim 17 sets forth features and limitations not recited by *Mutoh*.

For at least the foregoing reasons, Appellant respectfully asserts that claim 6 is also patentable over the 35 U.S.C. § 102 rejections of record.

12. Claim 18

As noted, claim 18 also stands rejected under 35 U.S.C. 102(b) as anticipated by *Mutoh*. Claim 18 recites “said strut attachment point forms part of a member extending from said shaft.” As noted above in addressing the rejection of claims 12 and 14 *Mutoh* fails to teach or suggest a strut attachment point, and the portion of *Mutoh* relied on by the Office Action, rod 28, as teaching the attachment point is clearly not a part of arm 7, which, at best, can be said to be roughly analogous to a “member extending from said shaft.” Therefore, *Mutoh* fails to disclose every element of claim 18.

Furthermore, claim 18 depends directly from independent claim 16, and thereby inherits all elements of claims 12 and 16. Therefore, for at least the reasons set forth in

addressing the anticipation rejection of claims 12 and 16, claim 18 sets forth features and limitations not recited by *Mutoh*.

For at least the foregoing reasons, Appellant respectfully asserts that claim 18 is also patentable over the 35 U.S.C. § 102 rejection of record.

13. Claim 21

As noted, claim 21 also stands rejected under 35 U.S.C. 102(b) as anticipated by *Mutoh*. The Office Action parenthetically asserts that “the base 7 is capable of being adapted to hold an accessory.” Thus, the Office Action admits that *Mutoh* fails to show, in at least as great a detail as claimed, all of the elements of claim 21. Therefore Applicant respectfully asserts that the rejection of record of claim 21 under 35 U.S.C. § 102 is improper.

14. Independent Claim 22

As noted, independent claim 22 stands rejected as anticipated by *Mutoh*. However, independent method claim 22 recites:

“communicating a biasing force from said strut to said attachment point,

“said supporting structure communicating said biasing force to said pulley through rotation about said pivot bearing, and

substantially balancing said biasing force at said pivot bearing in terms of parasitic torque.”

The Office Action relies on the same inherency arguments as advanced in addressing claim 12 to reject claim 22 as being anticipated by *Mutoh*, namely that “[t]he forces of the pulley and the strut have to pass through the pivot bearing and balance in order to keep the appropriate tension on the belt” (emphasis added). However, as pointed out above, assuming *ad arguendo* that, that the forces of the pulley and the strut of *Mutoh* “have to pass through the pivot bearing and balance in order to keep the appropriate tension on the belt,” *Mutoh* still does not teach (or suggest) “substantially balancing said biasing force at said pivot bearing in terms of parasitic torque” (emphasis added). As also discussed above, one might view the forces to keep tension on the belt in *Mutoh* as passing through bolt 10 and what may be an accompanying (unnumbered) bearing to the engine block. However, nothing in *Mutoh* would

suggest that the pulley and attachment point are substantially balanced in terms of parasitic torque particularly as *Mutoh* fails to explicitly disclose a pivot bearing, much less discuss mitigating the effects of parasitic torque across such a bearing.

Further, Appellant again presents the appended Declaration under 37 C.F.R. §1.132 of the present Inventor as rebuttal evidence under M.P.E.P. § 2112.01(I). Therein, beginning on page 4, the Inventor points out:

one of ordinary skill in the art would not find that the tensioner arrangement of *Mutoh* would necessarily possess the characteristic of being substantially balanced in terms of parasitic torque across its pivot bearing(s), nor would these characteristics necessarily flow from the teachings of Muto. More specifically, *Mutoh* fails to teach or suggest balancing a pulley, attachment point and pivot bearing in terms of parasitic torque across the pivot bearing by arranging the a pulley, attachment point and pivot bearing such that a balance line that might be inferred as passing through an axis of the strut contact point of *Mutoh* and a center of the tensioner pulley would intersect the pivot shaft, much less intersect the pivot shaft within a lateral limit of the pivot bearing(s). See Figure 2 of *Mutoh*. Review of Figure 2 of *Mutoh* makes clear that a balance line cannot pass through the axis of the strut attachment point, a center of the tensioner pulley and the pivot shaft of *Mutoh*, as the a plane containing the pulley axis and the pivot axis is perpendicular to a plane containing the pivot axis and the attachment point. Thus, *Mutoh* fails to teach or suggest balancing a pulley, strut attachment point and pivot bearing in terms of parasitic torque across the pivot bearing. Nor are these characteristics necessarily possessed by *Mutoh* or do they necessarily flow from the teachings of Mutoh.

Thus, Appellant respectfully asserts that *Mutoh* fails to teach at least “substantially balancing said biasing force at said pivot bearing in terms of parasitic torque,” as recited by claim 22. Further, *Mutoh* fails to explicitly disclose a pivot bearing as explicitly recited by claim 22. Thus, *Mutoh* fails to teach at least this element of claim 22 in as complete detail as recited in the claim.

For at least the above reasons, Appellant respectfully asserts that independent claim 22 is patentable over the 35 U.S.C. § 102 rejection of record. Furthermore, there are great differences between the claims and the prior art of record, and a person of ordinary skill in

the art considering the prior art would not find these differences obvious. For example, *Mutoh* is silent concerning parasitic torque and a pivot bearing, much less substantially balancing said biasing force at said pivot bearing in terms of parasitic torque.

VIII. CLAIMS APPENDIX

A copy of the claims involved in the present appeal is attached hereto as Appendix A.

IX. EVIDENCE APPENDIX

As noted above, evidence in the form of entered § 1.132 Declarations of the present Inventor and the sole Inventor of the *Schmid* reference are appended hereto in Appendix B. These Declarations were faxed to and entered by the Office on April 5, 2006 and May 31, 2006, respectively. No evidence pursuant to §§ 1.130 or 1.131, or entered by or relied upon by the Examiner is being submitted.

X. RELATED PROCEEDINGS

No related proceedings are referenced in II. above, hence no copies of decisions in related proceedings are provided, and no related Proceedings Appendix is included.


I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, P. O. box 1450, Alexandria, VA 22313.

Date of Deposit: March 17, 2008

Typed Name: Jerry L. Mahurin
Reg. No. 34,661

Signature: 

Respectfully submitted,

By: 
Jerry L. Mahurin
Attorney for Appellant
Reg. No. 34,661
Date: March 17, 2008
Telephone No. (303) 744-5796

APPENDIX A

Claims Involved in the Appeal of Application Serial No. 10/664,443

1. An improved power transmission belt tensioner of the type having a pulley adapted to communicate with a surface of a power transmission belt, an arm supporting said pulley upon which said pulley is rotatably mounted via a pulley bearing, a shaft supporting said arm, said shaft rotatably supported by a pivot bearing, an attachment point for a strut, and said strut attached to said attachment point, the improvement comprising:

said pulley and said attachment point laterally offset in relation to said pivot bearing and substantially balanced in terms of parasitic torque across said pivot bearing.

2. The improvement of claim 1 wherein, said strut attachment point is laterally opposite of said pivot bearing in relation to the plane of rotation of said pulley.

3. The improvement of claim 2 wherein, said strut attachment point forms part of a member extending from a support for said pulley bearing.

4. The improvement of claim 3 wherein, said member is a shield.

5. The improvement of claim 1 wherein, said strut attachment point is laterally opposite of said pulley in relation to the plane of rotation of said pivot bearing.

6. The improvement of claim 5 wherein, said strut attachment point is beyond the lateral limits of said pivot bearing.

7. The improvement of claim 5 wherein, said strut attachment point forms part of a member extending from said shaft.

8. The improvement of claim 5 wherein, the plane of rotation of said pulley is beyond the lateral limits of said pivot bearing.

9. The improvement of claim 5 wherein, said pulley is radially opposite of said attachment point in relation to said pivot bearing.

10. The improvement of claim 7 wherein, said member is a lever arm.

11. The improvement of claim 1 wherein said tensioner includes a base adapted to support an accessory.

12. A power transmission drive comprising:

a crankshaft pulley;

an accessory pulley;

a power transmission belt;

a power transmission belt tensioner having a tensioner pulley adapted to communicate with a surface of said power transmission belt, an arm supporting said tensioner pulley upon which said tensioner pulley is rotatably mounted via a pulley bearing, a shaft supporting said arm, said shaft rotatably supported by a pivot bearing, an attachment point for a strut, and said strut attached to said attachment point, said pulley and said attachment point laterally offset in relation to said pivot bearing and substantially balanced in terms of parasitic torque across said pivot bearing; and,

said power transmission belt trained about said crankshaft pulley, said accessory pulley and said tensioner pulley.

13. The power transmission drive of claim 12 further comprising, said strut attachment point being laterally opposite of said pivot bearing in relation to the plane of rotation of said tensioner pulley.

14. The power transmission drive of claim 13 further comprising, said strut attachment point forms part of a member extending from a support for said pulley bearing.

15. The power transmission drive of claim 14 further comprising, said member being a shield.

16. The power transmission drive of claim 12 further comprising, said strut attachment point being laterally opposite of said pulley in relation to the plane of rotation of said pivot bearing.

17. The power transmission drive of claim 16 further comprising said strut attachment point being beyond the lateral limits of said pivot bearing.

18. The power transmission drive of claim 16 further comprising, said strut attachment point forms part of a member extending from said shaft.

19. The power transmission drive of claim 16 further comprising the plane of rotation of said pulley being beyond the lateral limits of said pivot bearing.

20. The power transmission drive of claim 18 further comprising, said member being a lever arm.

21. The power transmission drive of claim 12 wherein said power transmission tensioner includes a base adapted to support an accessory.

22. A method of tensioning a power transmission belt comprising:
- providing said power transmission belt,
 - providing a pivot bearing
 - providing a tensioner having a pulley adapted to communicate with a surface of said power transmission belt, a supporting structure including a supporting shaft rotatably supported by said pivot bearing for supporting a supporting arm, said supporting arm for supporting said pulley, said pulley being rotatably mounted upon said supporting arm via a pulley bearing, said pulley being laterally offset in relation to said pivot bearing, and an attachment point for a strut, said attachment point being laterally offset in relation to said pivot bearing,
 - providing said strut,
 - communicating a biasing force from said strut to said attachment point,
 - said supporting structure communicating said biasing force to said pulley through rotation about said pivot bearing, and
 - substantially balancing said biasing force at said pivot bearing in terms of parasitic torque.

APPENDIX B

Attached:

Declaration under 37 C.F.R. §1.132 of Alexander “Sasha” Serkh, faxed and entered by the Office on April 5, 2006

Declaration under 37 C.F.R. §1.132 of Michael B. Schmid, faxed and entered by the Office on May 31, 2006.

T02-062A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
SERKH, Alexander

Serial No.: 10/664,443

Docket No.: T02-062A

For: BELT TENSIONER

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Examiner: Johnson, Vicky A.

Group Art Unit: 3682

Declaration under 37 C.F.R. §1.132

I, Alexander "Sasha" Serkh, residing at 316 Falling Brook Drive, Troy Michigan, the sole inventor of the subject matter of U.S Patent Application Serial No. 10/664,443, filed September 9, 2003, entitled "Belt Tensioner" and claiming priority to U.S. Provisional Application Serial No. 60/412,471, filed September 20, 2002, hereby declare:

I am a mechanical engineer, in the employ of the Gates Corporation as an Advanced Product Engineering Manager. I received my MSME degree from the Moscow Automobile Construction Institute, in Automotive Engineering in 1983; and a Ph.D. in 1987 from the same institute. I was a Patent Examiner in the Russian Patent Office from 1983 to 1991. I have worked in the field of power transmission belts and belt tensioners for 12 years and I am an inventor in at least 23 U.S. patents and numerous counterpart foreign patents related to the tensioning of power transmission belts and the like. Also, I hold 68 Russian patents in the field of power transmission, energy storage devices, and flywheels, and one Bulgarian patent on a super flywheel. I lead belt tensioner development for the Gates Corporation for at least 10 years. Gates' tensioner technology is recognized to be superior by our customers. Since the first introduction of a balanced tensioners invented by me in 1997 Gates Corporation has produced more than thirty million units to date in North America, Europe, and Asia. For at least the forgoing reasons, I respectfully assert that I am an expert in at least the field of power transmission belt tensioners.

T02-062A

I have reviewed Schmid, U.S. Patent Number 6,039,664 (hereinafter *Schmid*), as well as re-reviewing claims 1-11 of U. S. Patent Application Serial Number 10/664,443, the subject matter of which I am the sole inventor. I have also reviewed a copy of the USPTO Office Action mailed on June 6, 2005, finally rejecting the claims 1-3 and 5-11 of U. S. Patent Application Serial Number 10/664,443 as anticipated by *Schmid*. In referring to *Schmid*, the Office Action alleges: "It is inherent that the forces of the strut would balance out the forces of the pulley, because as the belt applies more force against the pulley the strut would apply an equal opposite force in order to keep tension on the belt. The forces of the pulley and the strut have to pass through the pivot bearing and balance in order to keep the appropriate tension on the belt." Further, the Office Action states: "It is inherent that the torque loss would be balanced as in the claimed invention since the two inventions are almost identical in structure." Upon this review I have determined the following:

- 1) *Schmid* discloses a power transmission belt tensioner.
- 2) One of ordinary skill in the art might read *Schmid* as disclosing a power transmission belt tensioner of the type having a pulley adapted to communicate with a surface of a power transmission belt, an arm supporting the pulley upon which the pulley is rotatably mounted via a pulley bearing, a shaft supporting the arm, the shaft rotatably supported by a pivot bearing, an attachment point for a strut, and the strut attached to the attachment point, wherein the pulley and the attachment point laterally offset in relation to the pivot bearing.
- 3) However, one of ordinary skill in the art would not find that the tensioner arrangement of *Schmid* would necessarily possess the characteristic of being substantially balanced in terms of parasitic torque across its pivot bearing(s). More specifically, *Schmid* fails to teach or suggest balancing a pulley, attachment point and pivot bearing in terms of parasitic torque across the pivot bearing by arranging the a pulley, attachment point and pivot bearing such that a balance line that might be inferred as passing through the through an axis of the strut

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attachment point and a center of the tensioner pulley would intersect the pivot shaft, much less intersect the pivot shaft within a lateral limit of the pivot bearing(s). Such an implementation of the invention of claim 1 is taught as a means to balance the a pulley, strut attachment point and pivot bearing in terms of parasitic torque by the specification of patent application serial number 10/664,443. Review of Figure 1 of *Schmid* makes clear that a balance line cannot pass through the axis of the strut attachment point, a center of the tensioner pulley and the pivot shaft of *Schmid*, as the a plane containing the pulley axis and the pivot axis is perpendicular to a plane containing the pivot axis and the attachment point. As pointed out in the specification of patent application serial number 10/664,443 the attachment point for the strut of *Schmid* remains substantially in the plane at the center of rotation of the pivot bearing. It is readily apparent that, when the tensioner of *Schmid* is placed into operation, the forces acting upon the tensioner by the belt and the strut give rise to an unbalanced load across the pivot bearing causing parasitic torque, which tends to force the pivot shaft to axially misalign with the bearing. This would be true whether the strut is providing the biasing force for the tensioner or only modifying the biasing force through damping. Thus, *Schmid* fails to teach or suggest, nor does *Schmid* necessarily possess the characteristic of balancing a pulley, strut attachment point and pivot bearing in terms of parasitic torque across the pivot bearing.

I further declare that I have reviewed Mutoh, U.S. Patent Number 4,838,840 (the U.S. counterpart of German Patent Number DE 38099169) (hereinafter *Mutoh*), as well as re-reviewing claims 12-22 of U. S. Patent Application Serial Number 10/664,443, the subject matter of which I am the sole inventor. I have also reviewed a copy of the USPTO Office Action mailed on June 6, 2005, finally rejecting the claims 12-14 and 16-22 of U. S. Patent Application Serial Number 10/664,443 as anticipated by *Mutoh*. In refereeing to *Mutoh*, the Office Action alleges: "It is inherent that the forces of the strut would balance out the forces of the pulley, because as the belt applies more force against the pulley the strut would apply an equal opposite force in order to keep tension on the belt. The forces of the pulley and the strut have to pass through the pivot bearing and balance

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in order to keep the appropriate tension on the belt." Upon this review I have determined the following:

- 1) *Mutoh* discloses a power transmission belt tensioner.
- 2) One of ordinary skill in the art might read *Mutoh* as disclosing a power transmission belt tensioner of the type having a pulley adapted to communicate with a surface of a power transmission belt, an arm supporting the pulley upon which the pulley is rotatably mounted via a pulley bearing, a shaft supporting the arm, the shaft rotatably supported by a pivot bearing, an attachment point for a strut, and the strut attached to the attachment point, wherein the pulley and the attachment point laterally offset in relation to the pivot bearing, at least slightly.
- 3) However, one of ordinary skill in the art would not find that the tensioner arrangement of *Mutoh* would necessarily possess the characteristic of being substantially balanced in terms of parasitic torque across its pivot bearing(s), nor would these characteristics necessarily flow from the teachings of *Mutoh*. More specifically, *Mutoh* fails to teach or suggest balancing a pulley, attachment point and pivot bearing in terms of parasitic torque across the pivot bearing by arranging the a pulley, attachment point and pivot bearing such that a balance line that might be inferred as passing through an axis of the strut contact point of *Mutoh* and a center of the tensioner pulley would intersect the pivot shaft, much less intersect the pivot shaft within a lateral limit of the pivot bearing(s). See Figure 2 of *Mutoh*. Review of Figure 2 of *Mutoh* makes clear that a balance line cannot pass through the axis of the strut attachment point, a center of the tensioner pulley and the pivot shaft of *Mutoh*, as the a plane containing the pulley axis and the pivot axis is perpendicular to a plane containing the pivot axis and the attachment point. Thus, *Mutoh* fails to teach or suggest balancing a pulley, strut attachment point and pivot bearing in terms of parasitic torque across the pivot bearing. Nor are these characteristics necessarily possessed by *Mutoh* or do they necessarily flow from the teachings of *Mutoh*.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.


Alexander Serkh

Date: 3/14/2006

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICEIn re Application of:
SERKH, Alexander

Serial No.: 10/664,443

Docket No.: T02-062A

For: BELT TENSIONER

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) Examiner: Johnson, Vicky A.
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) Group Art Unit: 3682
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)**Declaration under 37 C.F.R. §1.132**

I, Michael B. Schmid, residing at 1381 Kentfield, Rochester, Rhode Island, the sole inventor of the subject matter of U.S Patent No. 6,039,664, entitled "Tensioning Device for Traction Systems Such as Belts and Chains," hereby declare:

I am a Mechanical Engineer employed by the Gates Corporation as Vice President of Engineering for Power Transmission. I received my Masters degree from the University of Nuernberg in 1987. I have worked in the field of power transmission belts and belt tensioners for 18 years and I am an inventor in at least 10 U.S. patents and numerous counterpart foreign patents related to the tensioning of power transmission belts and the like. I have lead power transmission product development for the Gates Corporation for over a year. For at least the forgoing reasons, I respectively assert that I am an expert in at least the field of power transmission belt tensioners.

At the Gates Corporation, I am the supervisor of Alexander "Sasha" Serkh, the sole inventor of the subject matter of U.S Patent Application Serial No. 10/664,443, filed September 9, 2003, entitled "Belt Tensioner" and claiming priority to U.S. Provisional Application Serial No. 60/412,471, filed September 20, 2002.

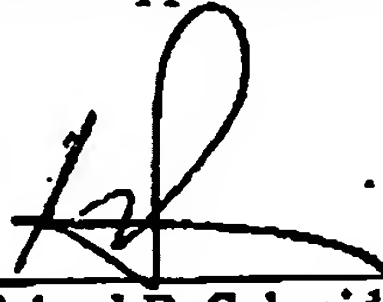
I have reviewed my U.S. Patent Number 6,039,664 (hereinafter referred to as "my patent"), as well as reviewing claims 1-11 of U.S. Patent Application Serial Number 10/664,443. I have also reviewed a copy of the USPTO Office Action mailed on June 6,

2005, finally rejecting claims 1-3 and 5-11 of U.S. Patent Application Serial Number 10/664,443 as anticipated by my patent. In referring to my patent, the Office Action alleges: "It is inherent that the forces of the strut would balance out the forces of the pulley, because as the belt applies more force against the pulley the strut would apply an equal opposite force in order to keep tension on the belt. The forces of the pulley and the strut have to pass through the pivot bearing and balance in order to keep the appropriate tension on the belt." Further, the Office Action states: "It is inherent that the torque loss would be balanced as in the claimed invention since the two inventions are almost identical in structure." Upon this review I have determined the following:

- 1) As pointed out by the Office Action, my patent does in fact disclose a power transmission belt tensioner.
- 2) I believe one of ordinary skill in the art would read my patent as disclosing a power transmission belt tensioner of the type having a pulley adapted to communicate with a surface of a power transmission belt, an arm supporting the pulley upon which the pulley is rotatably mounted via a pulley bearing, a shaft supporting the arm, the shaft rotatably supported by a pivot bearing, an attachment point for a strut, and the strut attached to the attachment point, wherein the pulley and the attachment point laterally offset in relation to the pivot bearing.
- 3) However, my patent was not intended to teach or suggest, nor I do not believe one of ordinary skill in the art would find that, the tensioner arrangement of my patent would necessarily possess the characteristic of being substantially balanced in terms of parasitic torque across its pivot bearing(s). More specifically, my patent does not teach or suggest balancing a pulley, attachment point and pivot bearing in terms of parasitic torque across the pivot bearing by arranging the a pulley, attachment point and pivot bearing such that a balance line that might be inferred as passing through the through an axis of the strut attachment point and a center of the tensioner pulley would intersect the pivot

shaft. Such an implementation of the invention of claim 1 is taught as a means to balance the a pulley, strut attachment point and pivot bearing in terms of parasitic torque by the specification of patent application serial number 10/664,443. Review of Figure 1 of my patent makes clear that a balance line cannot pass through the axis of the strut attachment point, a center of the tensioner pulley and the pivot shaft of my patent, as the a plane containing the pulley axis and the pivot axis is perpendicular to a plane containing the pivot axis and the attachment point. As pointed out in the specification of patent application serial number 10/664,443 the attachment point for the strut of my patent remains substantially in the plane at the center of rotation of the pivot bearing. It is readily apparent that, when the tensioner of my patent is placed into operation, the forces acting upon the tensioner by the belt and the strut give rise to an unbalanced load across the pivot bearing causing parasitic torque, which tends to force the pivot shaft to axially misalign with the bearing. This would be true whether the strut is providing the biasing force for the tensioner or only modifying the biasing force through damping. Thus, my patent does not teach or suggest, nor does my patent necessarily possess the characteristic of balancing a pulley, strut attachment point and pivot bearing in terms of parasitic torque across the pivot bearing.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



Michael B. Schmid

Date: 5/1/2006